Math 124 Formula Sheet

Chapter 1

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Chapter 2

$$C(x) = MC * x + FC \qquad \bar{C}(x) = \frac{C(x)}{x}$$

$$R(x) = price * x \qquad \bar{R}(x) = \frac{R(x)}{x}$$

$$P(x) = R(x) - C(x) \qquad \bar{P}(x) = \frac{P(x)}{x}$$

$$Marginal \rightarrow slope \qquad y_1 \sim m x_1 + b$$

Chapter 3

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$General\ Form: f(x) = ax^2 + bx + c$$

$$Vertex\ Form: f(x) = a(x-h)^2 + k$$

$$Vertex: \left(-\frac{b}{2a}, f\left(-\frac{b}{2a}\right)\right) = (h,k)$$

Chapter 4

No additional formulas

Chapter 5

$$\log_a x = y \ \leftrightarrow \ x = a^y$$

$$\log_e(x) = \ln(x) \qquad \log_{10} x = \log(x)$$

$$\log_a(a^x) = a^{\log_a x} = x$$

$$\log_a(xy) = \log_a(x) + \log_a(y)$$

$$\log_a\left(\frac{x}{y}\right) = \log_a(x) - \log_a(y)$$

$$\log_a(x^p) = p * \log_a(x)$$

$$\log_a(x) = \frac{\log(x)}{\log(a)}$$

Chapter 6

$$A(t) = P\left(1 + \frac{r}{n}\right)^{nt} \qquad A(t) = Pe^{rt}$$

$$y_1 \sim P\left(1 + \frac{r}{n}\right)^{x_1} \qquad y_1 \sim Pe^{rx_1}$$

$$APY = \left(1 + \frac{r}{n}\right)^n - 1 \qquad APY = e^r - 1$$

n	Compounded
1	Annually
2	Semi-Annually
4	Quarterly
12	Monthly
52	Weekly
365	Daily

Chapter 7

$$\begin{matrix} 4x + 3y = 8 \\ -2x + 8y = 1 \end{matrix} \rightarrow \begin{bmatrix} 4 & 3 & 8 \\ -2 & 8 & 1 \end{bmatrix}$$